REMARKS

Claims 1-19 are pending in this application. Claims 1, 2, 8, 9, 14, 15, 18 and 19 are amended herein. No new matter is added, and entry of the amendments provided herein is respectfully requested. After entry of amendments herein, claims 1-19 remain pending.

The amendments are provided with a Request for Continuing Examination, which follows a telephone interview by the undersigned with the Examiner on February 23, 2006. During that interview the possibility of amending after Final was discussed, no agreement was reached as to any specific approach for amendments, and new claim amendments were not specifically considered.

Claim rejections – 35 USC 103

Claims 1-6 and 8-19 stand rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Brown (U.S. Patent 6,119,710) in view of Hinkle (U.S. Patent 5,684,245). Claim 7 stands rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Brown and Hinkle as applied to claims 1-6 and 8-19, further in view of Nishikawa et al. (U.S. 6,273,954).

In the 01/10/2006 Final Office action, on page 4 at the bottom the following is stated, "Applicant is arguing that Brown requires a discontinuous flow through the bypass line where as the present invention does not. However, the claims do not recite that flow through the bypass loop is continuous, rendering the argument moot."

Applicant continues to believe that the claims as originally presented distinguish from Brown. Further analysis of Brown leads the undersigned to believe that Brown may, in some embodiments, provide for periodic or routine flow through the loop that comprises the calibration volume 403 (see col. 14, lines 4-35, and claim 25), and for use of data developed during such flow for calibration purposes. However, this calibration loop,

critically, is upstream of what is being calibrated, for instance, it is upstream of the dedicated flow restrictor 424, differential pressure sensor 422, absolute pressure sensor 423, and adjustable control valve 430 in the first gas path 450, and corresponding components in the second gas path 460. That is, even if flow rate determination takes place during flow through the calibration volume 403, by its relative positioning of elements (and corresponding functionality) Brown still teaches away from embodiments of the present invention, which provide a respective mass flow controller upstream of the bypass loop and where the gas rate established by such mass flow controller is what is being measured (and adjusted as needed, or indicating the need for replacement, etc.) during flow through the bypass loop of the present invention. Brown does not teach use of a measurement device in a bypass loop to determine incoming flow rate, and in fact teaches an opposite approach.

Based on the above, Applicant proposes the claim amendments in the attached sheets. These are believed to better clarify the distinction from Brown and similar technologies. More particularly, the present claims provide, for example, a system to measure a gas flow rate of a gas supplied from a mass flow controller to a process chamber via a process line, the system comprising:

a. the mass flow controller;

b. a vent line fluidly connecting to said process line between said mass flow controller and said process chamber, said vent line comprising

i. a bypass loop having an inlet junction and a return junction fluidly connecting said bypass loop to said vent line, and comprising

a. a flow detector adapted to provide a measurement of said gas flow rate as said gas, supplied from the mass flow controller, flows through both said flow detector and said bypass loop;

b. a first bypass control valve between said inlet junction and said flow detector;

ii. a main vent line shut-off valve between said inlet junction and said return junction; and

c. a computational control device that receives data signals from said flow detector;

whereby said gas while flowing through said bypass loop provides for said measurement of said mass flow controller's gas flow rate which provides information for quantitation or for calibration of said mass flow controller.

It is noted that Hinkle, which in Fig. 4C does depict a bypass loop 53 downstream of an inline MFC 24, nonetheless teaches closure of upstream and downstream shutoff valves 20, 22 for measurements of gas quantity in the bypass loop 53 (see col. 7, lines 8-67). The present claims clearly distinguish from such approach through amendments to claims 1, 8, 14, 18 and 19. Thus, it appears that to combine Brown and Hinkle teaches would 1) render each respective teaching inoperative, and 2) teach away from each respective teaching through such combining. Accordingly, it appears that combining these references is not appropriate.

In that all dependent claims depend from amended claims 1, 8 and 14, the amendments to these claims are believed to be sufficient to overcome the rejection of dependent claims 2-7, 9-13, and 15-17. However, it also is noted that claims 2, 9, and 15 are amended herein to improve the clarity of these claims.

In addition to the above amendments and argument, it is noted, with regard to claims 1-7, that the cited references do not appear to teach a vent line comprising a bypass loop having an inlet junction and a return junction fluidly connecting said bypass loop to said vent line.

Based on the above, either separately or collectively, the obviousness rejections of claims 1-19 should be withdrawn. Applicant respectfully requests reconsideration of the claims as provided herein and withdrawal of such rejections.

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The Examiner is invited to call the undersigned if clarification is needed on any aspects of this Reply/Amendment, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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Joseph Fischer
Registration No. 51,210
Beusse Brownlee Wolter Mora & Maire, P.A.
390 N. Orange Avenue, Suite 2500
Orlando, FL 32801
Telephone: 407-926-7715
Cellular Phone: 407-497-7437
Fax: 407-926-7720